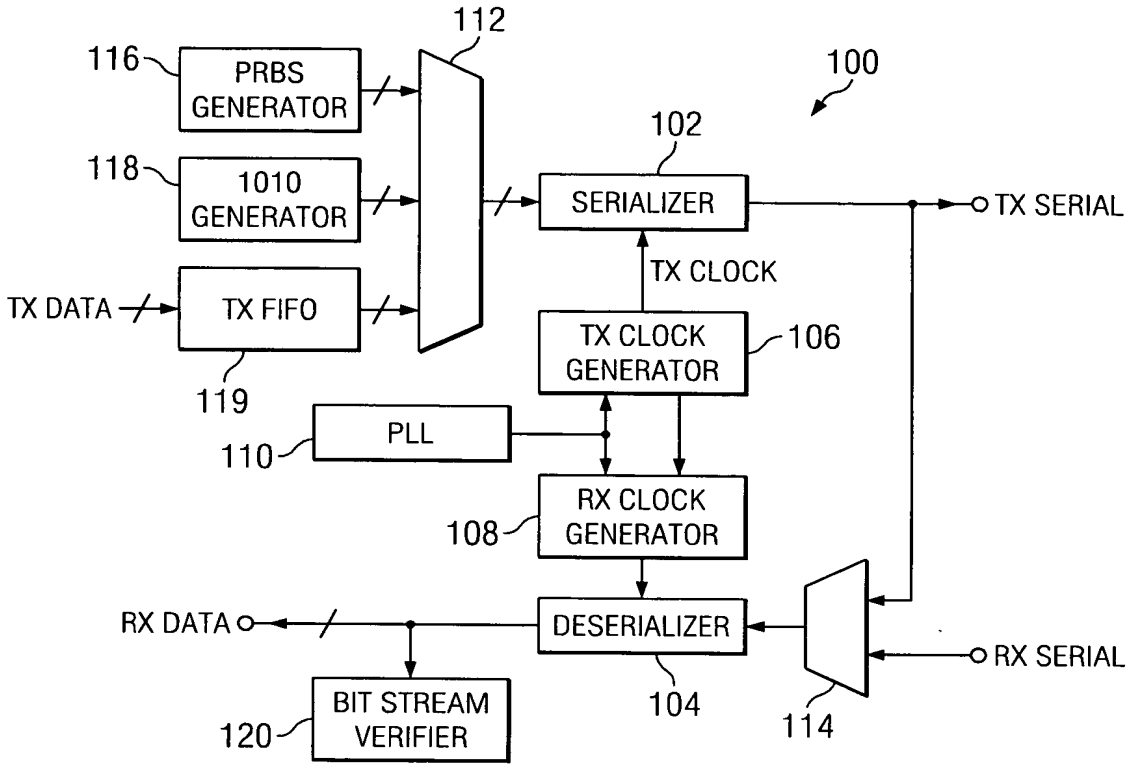

112
116
PRBS GENERATOR
100
102
118
1010 GENERATOR
SERIALIZER
TX SERIAL
TX DATA
TX FIFO
TX CLOCK
TX CLOCK GENERATOR
106
119
110
PLL
RX CLOCK GENERATOR
108
RX DATA
DESERIALIZER
RX SERIAL
BIT STREAM VERIFIER
120
104
114

FIG. 1

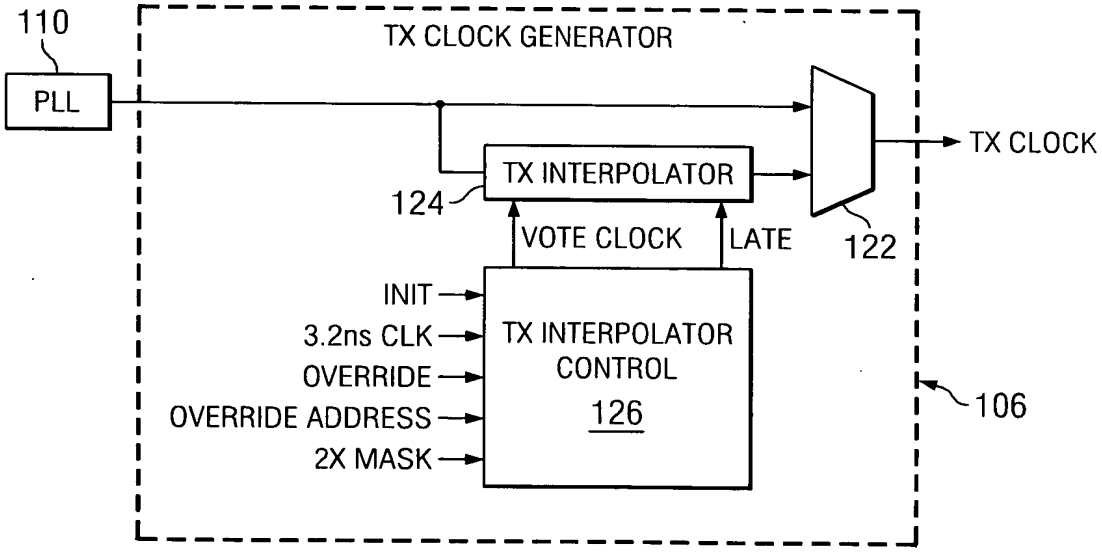

110
TX CLOCK GENERATOR
PLL
TX CLOCK
TX INTERPOLATOR
124
VOTE CLOCK
LATE
122
INIT
3.2ns CLK
OVERRIDE
OVERRIDE ADDRESS
2X MASK
TX INTERPOLATOR CONTROL
126
106

FIG. 2

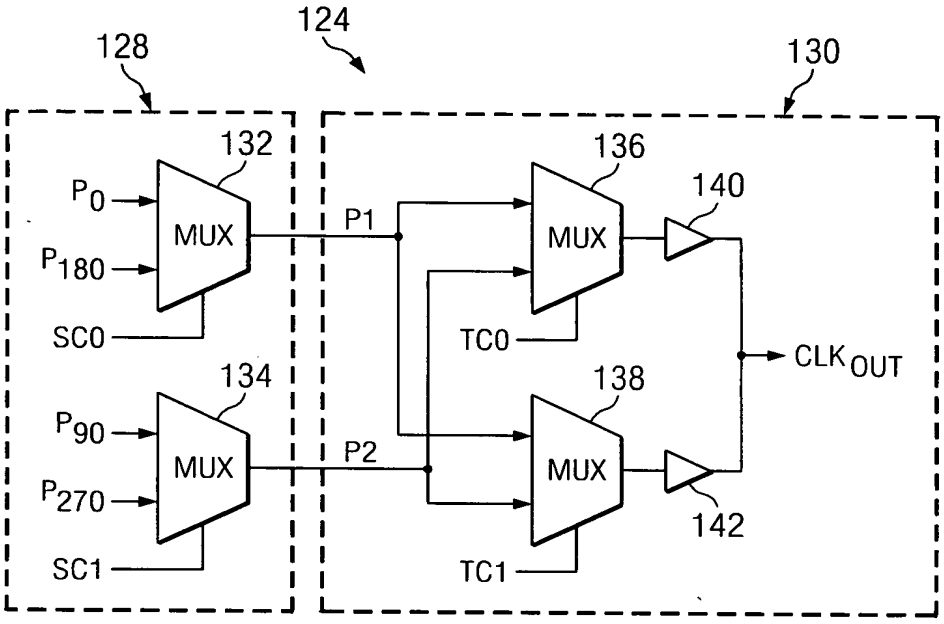

124
128
130
132
136
140
P0
P180
SC0
MUX
P1
TC0
CLKOUT
134
138
P90
P270
SC1
P2
142
TC1

FIG. 3A

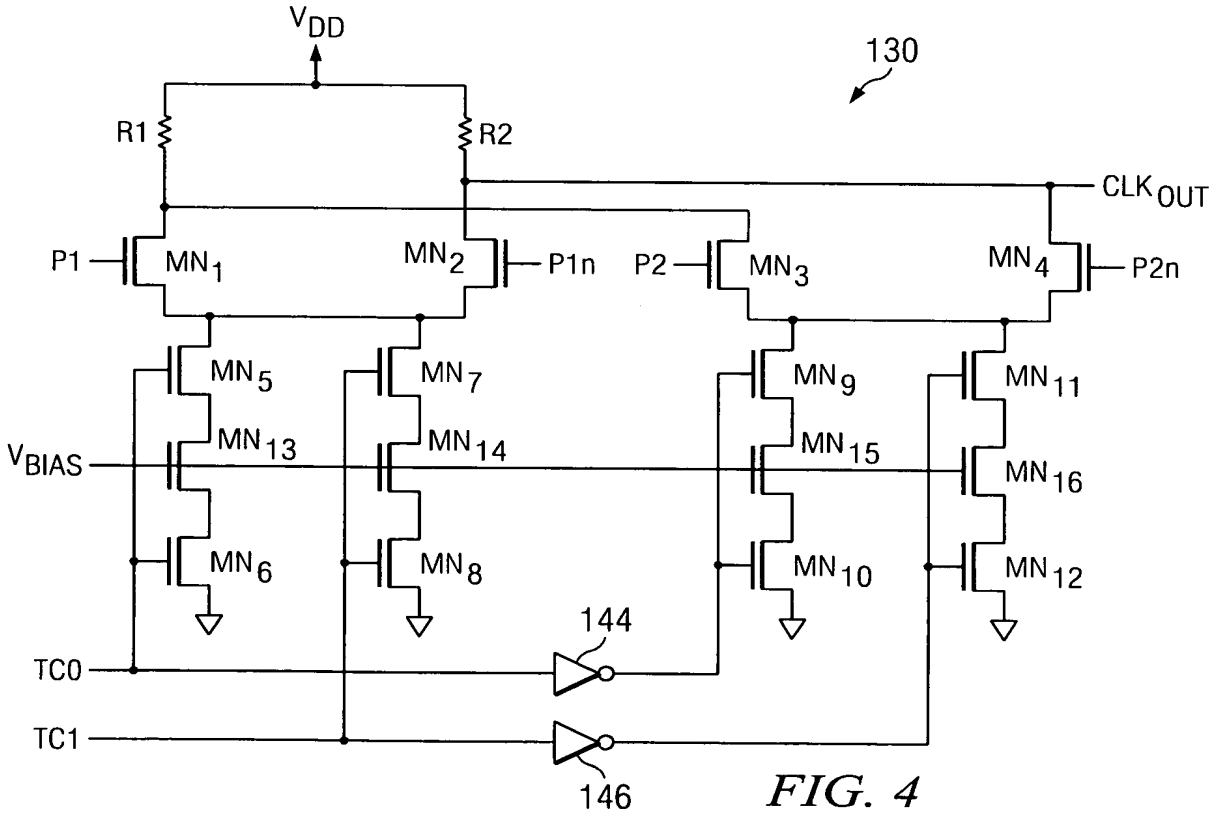

VDD
130
R1
R2
CLKOUT
P1
MN1
MN2
P1n
P2
MN3
MN4
P2n
MN5
MN7
MN9
MN11
VBIAS
MN13
MN14
MN15
MN16
MN6
MN8
MN10
MN12
144
TC0
TC1
146

FIG. 4

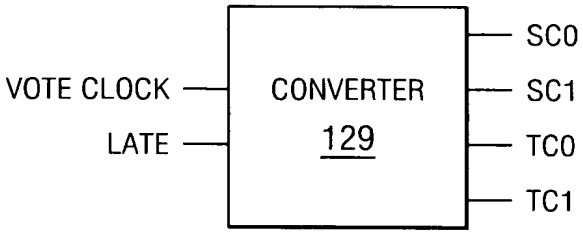

VOTE CLOCK
LATE
CONVERTER
129
SC0
SC1
TC0
TC1

FIG. 3B

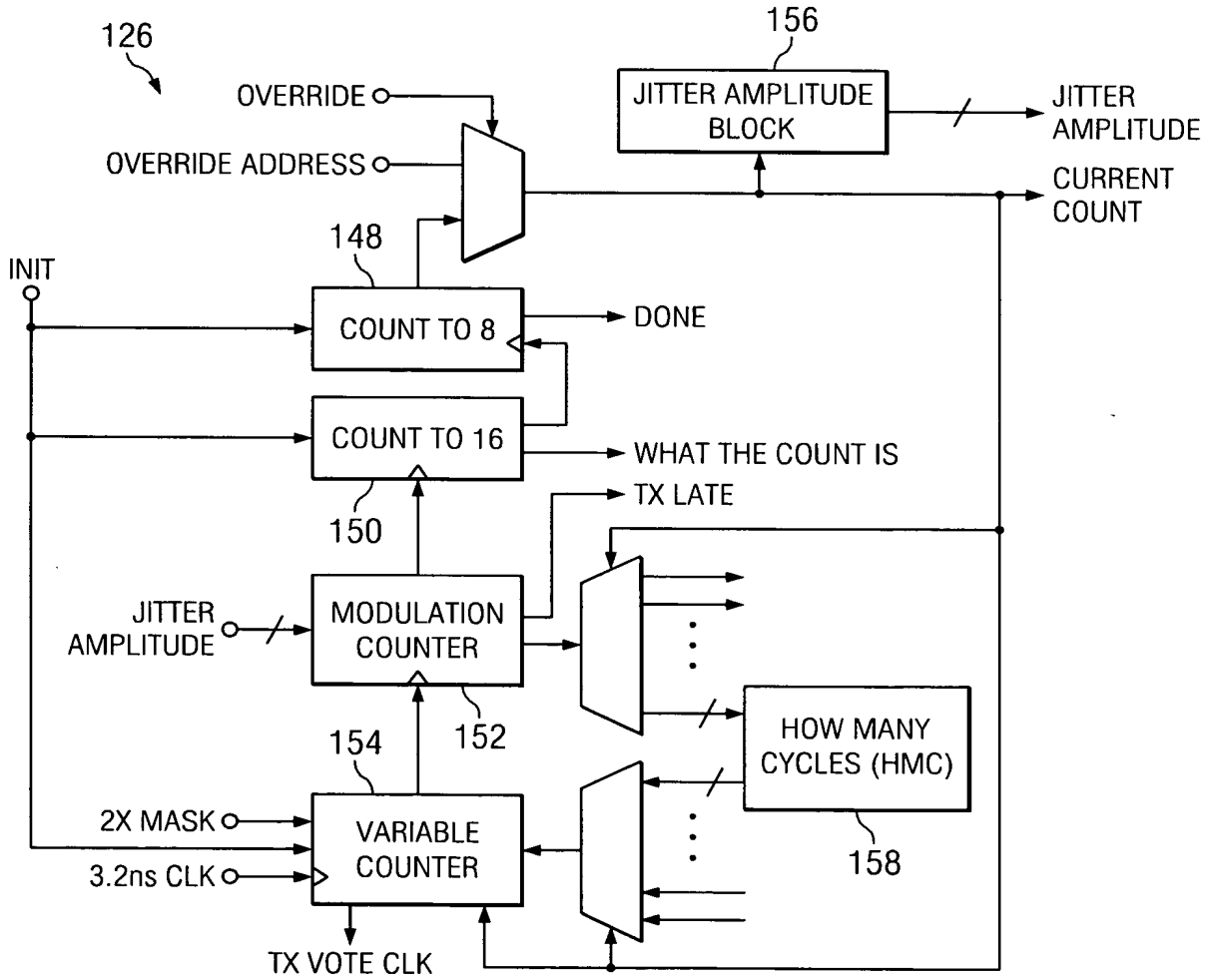

126
156
JITTER AMPLITUDE BLOCK
JITTER AMPLITUDE
OVERRIDE
OVERRIDE ADDRESS
CURRENT COUNT
148
INIT
COUNT TO 8
DONE
COUNT TO 16
WHAT THE COUNT IS
TX LATE
150
JITTER AMPLITUDE
MODULATION COUNTER
HOW MANY CYCLES (HMC)
154
152
2X MASK
3.2ns CLK
VARIABLE COUNTER
158
TX VOTE CLK

FIG. 5

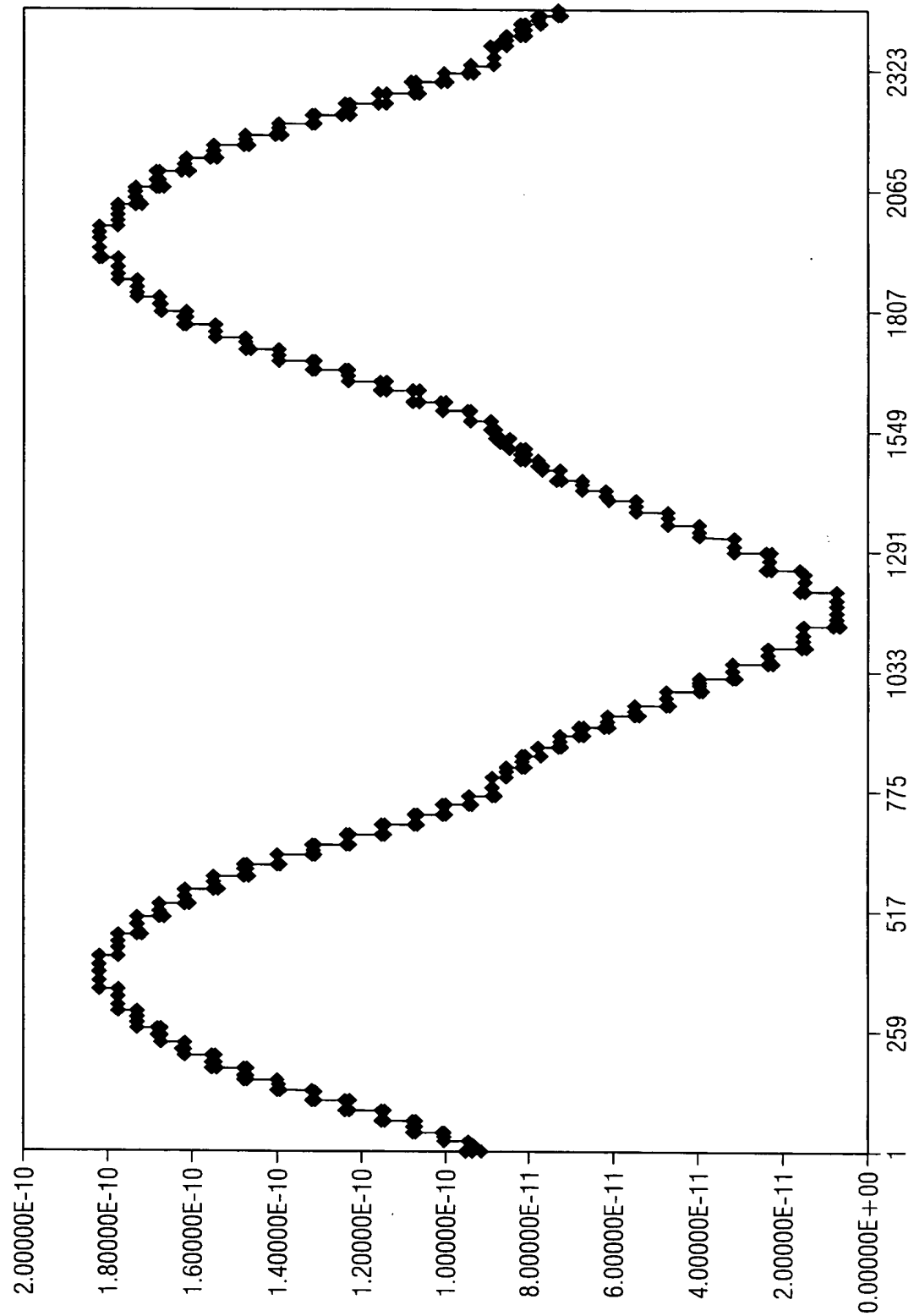

2.00000E-10
1.80000E-10
1.60000E-10
1.40000E-10
1.20000E-10
1.00000E-10
8.00000E-11
6.00000E-11
4.00000E-11
2.00000E-11
0.00000E+00
1
259
517
775
1033
1291
1549
1807
2065
2323

FIG. 6A

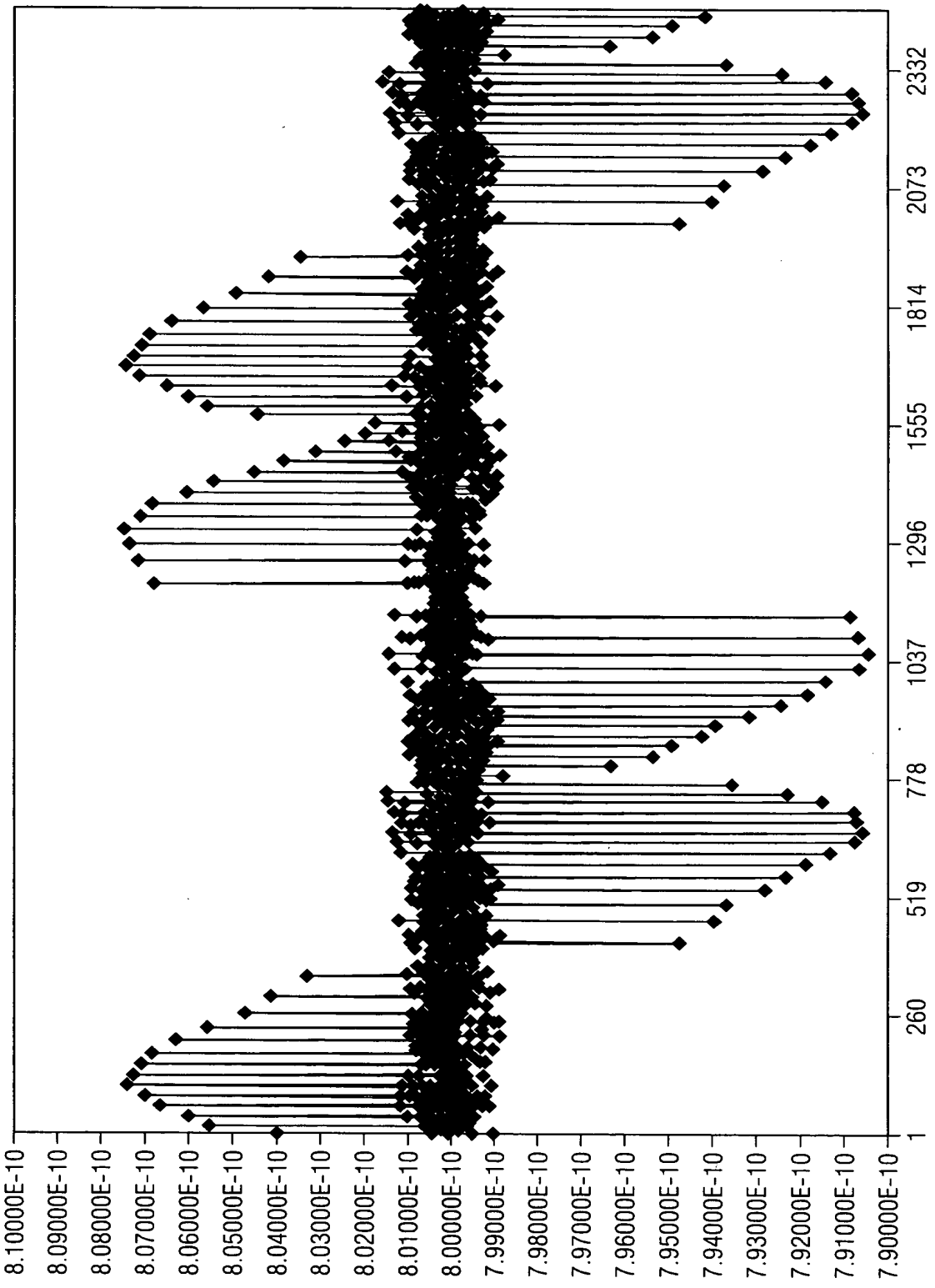
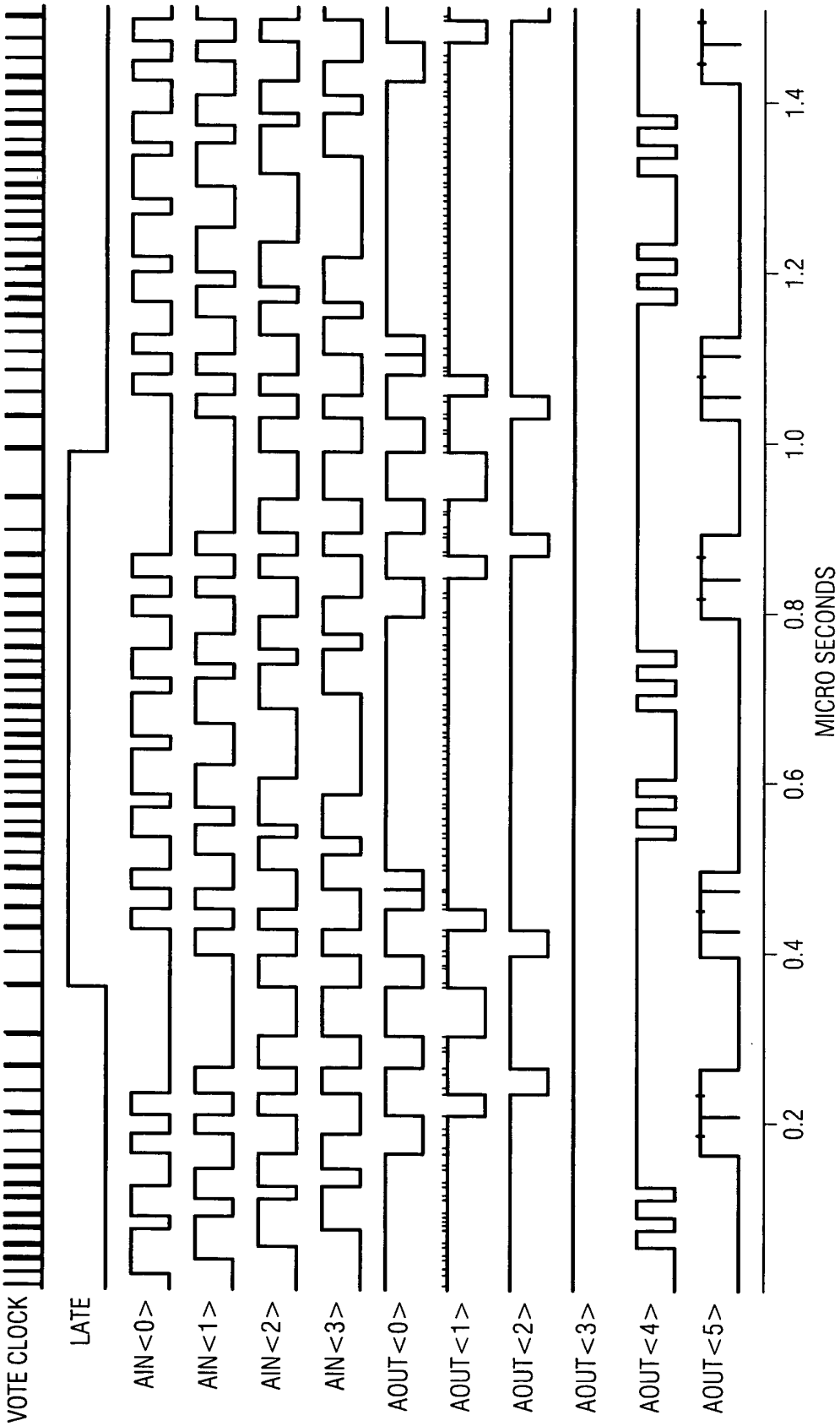

8.10000E-10
8.09000E-10
8.08000E-10
8.07000E-10
8.06000E-10
8.05000E-10
8.04000E-10
8.03000E-10
8.02000E-10
8.01000E-10
8.00000E-10
7.99000E-10
7.98000E-10
7.97000E-10
7.96000E-10
7.95000E-10
7.94000E-10
7.93000E-10
7.92000E-10
7.91000E-10
7.90000E-10
1
260
519
778
1037
1296
1555
1814
2073
2332

FIG. 6B

FIG. 6C


VOTE CLOCK
LATE
AIN<0>
AIN<1>
AIN<2>
AIN<3>
AOUT<0>
AOUT<1>
AOUT<2>
AOUT<3>
AOUT<4>
AOUT<5>
0.2
0.4
0.6
0.8
1.0
1.2
1.4
MICRO SECONDS

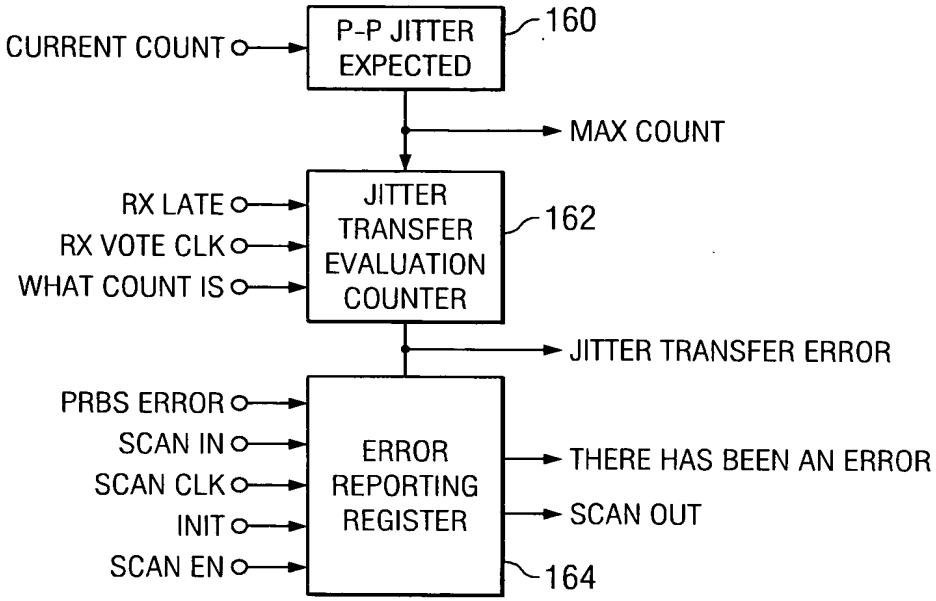


FIG. 7

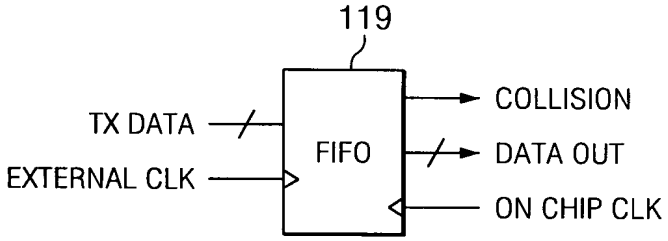


FIG. 8

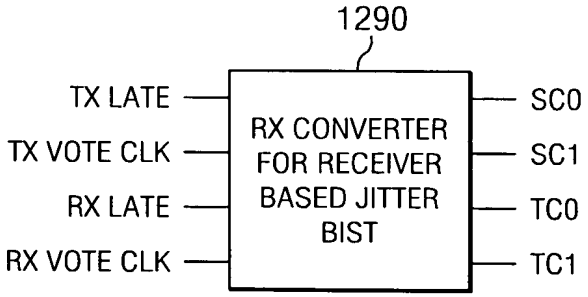


FIG. 9